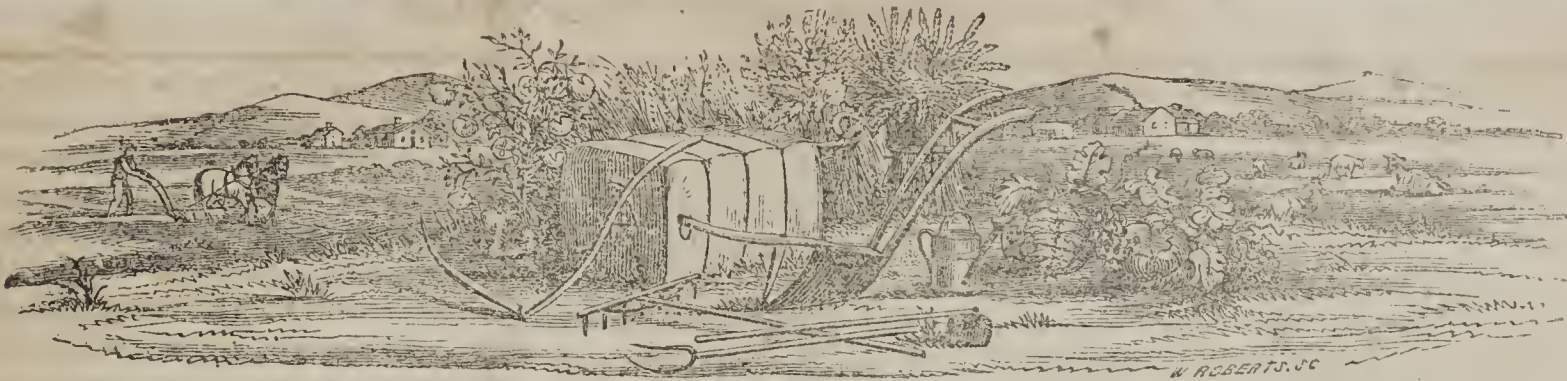


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FARMER AND PLANTER.

DEVOTED TO AGRICULTURE, HORTICULTURE, MECHANICS, DOMESTIC AND RURAL ECONOMY.

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Manures---No. 11.

Their Uses, History, Modes of Preparation, Comparative Value, Rationale of their Causes of Action, Etc. Etc.

BY PROF. J. J. MAPES.

In our last number we described at some length the chemical properties of night soil as manure; and also gave our method for preparing poudrette by admixture with decomposed swamp muck, charcoal dust, and other compostings. In the present article we shall quote cases of its ascertained practical value as a fertilizer, from C. W. Johnson, and other reliable sources, &c., &c.

The vulgar prejudices against the use of night soil as a fertilizer, renders its use so secret as to make it the more difficult to get at either its history or practical value. The fact of the more ignorant classes imagining that it imparts flavor to vegetables, has in all ages tended to prevent its general use, and consequently the earliest authorities mention it with peculiar reserve.

As the more important nations of antiquity inhabited warm climates, the frequent removal and destroying of all ex-

crement became necessary; and we find even the dung of bullocks used in the Jewish sacrifices was ordered to be burned, and in times of distress, it was used in common with human excrements, as fuel. (Ex. xxix. 14. Lev. iv. 2; viii. 17; xvi. 37. Num. xix 5. Ezek. iv. 12, 15.)

Dung hills evidently were saved, occasionally, however, and carried off as fertilizers. (Daniel ii. 5; iii 29. Luke xiv. 35. 1 Kings i. 10. Psalms, lxxxiii. 10. Jer. viii. 2; xvi. 1½; xxv. 33. Zeph. i. 17.

It was also mixed with straw and other materials to increase the quantity.—Isaiah, xxv; 10.

Jerusalem had even a gate called the *Dung Port* or *Gate*. Neh. ii. 13; iii. 13, 14; xii. 31.

And its application to fruit trees is noted by Luke, xiii. 8.)

Niebur, vol. i. p. 91, says: "In Arabia, the dung of asses and camels are chiefly used for fuel, because they are the most numerous and common. Little girls go about gathering dung in the streets, and in the highways; they mix it with cut straw; and with this mixture make cakes, which they place along the walls or upon the declivity of some neighboring eminence, to dry them in the sun.

In Georgia, (Asia Minor,) there is not a single tree, and they are in consequence forced to burn dung." (Tounefort, vol. iii. p. 137,) he says of Ezeroon, "You see neither tree nor bush, and their fuel is cows' dung." Le Bruyn states the same facts as occurring in Persia. "Wood is very dear, and is sold by weight; whence it is that they are obliged to make use of turf, made of camels' dung, cows' dung, sheeps' dung, horses' dung, and asses' dung. They use it more particularly for

heating ovens, with which they bake most of their meats in this country.—They even apply human dung in this way." (Le Bruyn, p. 228; Sandy's Travels, p. 85; Calmet, p. 106.)

In China the human excrement is highly valued for its fertilizing properties, and the manufacture of it into cakes is a regular trade, the large cities supplying the agricultural districts. These cakes are dried in the sun, and afterwards ground when used. In Belgium this fertilizer is well understood; and no portion is permitted to be lost. While in England, until a late date, its use as a fertilizer was unknown.

The northern states of the Continent of Europe have been compelled, from their dense population, to resort to all expedients for increasing their crops, and hence night soil, among other fertilizers, is in general use; indeed, but few large cities permit the contents of privies to pass off into their rivers.

But one large drain is suffered to enter the Seine at Paris, and this is from the poudrette manufactory at Montfagon.—The throwing away of night soil in most European cities is at this time prevented by fines and imprisonment; indeed night soil is a source of profit; every householder selling the contents of his privy to the manufacturers of poudrette, who not only remove it without charge, but pay in addition quite a sum for the privilege. Thus Strasburgh, with but 70,000 inhabitants, receives 300,000 francs for the night soil from the neighboring agriculturists. The poudrette manufactory at Montfagon, consumes daily 200 loads of night soil taken from the privies at Paris, and this quantity is in addition to that required by other manufactures nearly as extensive; the whole product of

these establishments is said to be used within seventeen leagues of Paris. At the request of the Saxon and Prussian authorities, Prof. Hembstadt, of Berlin, so well known as an eminent agriculturalist, in company with other scientific and practical men made a series of experiments to ascertain the comparative value of different fertilizing materials, and the following are among their results:

"If a given quantity of land sown without manure, yields three times the seed employed, then the same quantity of land will produce:—

Five times the quantity sown when manured with old herbage, putrid grass or leaves, garden stuff, &c., &c.

Seven times with cow dung.

Nine times with pigeon dung.

Ten times with horse dung.

Twelve times with human urine.

Twelve times with goats' dung.

Twelve times with sheeps' dung and

Fourteen times with human urine or bullocks' blood.

But if the land be of such quality as to produce, without manure, five times the sown quantity, then horse dung will yield fourteen, and human manure nineteen times the sown quantity; and that flux of the finest quality could only be obtained by the use of human manure.

The more important fact, however, in these comparative yields is, that the bulk of human manure used, was *only one-fifth that of the horse manure*, and consequently the results from its use are greater than we claimed in our last number, of 10½ to 1.

Let us now see what is the value of night soil for the use of farmers, as compared with stable manure.

Those farmers who reside near large cities, find it to their profit to use thirty half cords of manure to the acre, for raising the ordinary assortment of root and other crops.

For ease of calculation, we will suppose they used 31½ half cords of stable manure per acre, and that they buy it at one dollar per half cord, and cart it home, there depositing it in heaps till wanted for use, then carting it out to spread on the land.

31½ half cords stable manure at \$1. \$31 50
Carting at 50 cts. per half cord.. 15 75
Re-carting to the field after decay, and spreading upon the land, at 25 cents per load..... 7 87

\$55 12

Expense of mixing three loads of night soil with charcoal dust or decomposed peat, including the cost of charcoal or peat, and thus forming three half cords of poudrette, equal in effective value to

31½ half cords of stable manure \$5 00

Carting night soil, three loads at \$1 3 00

\$8 00

Value of three loads of night soil as compared with 31½ half cords of stable manure..... 47 12

\$55 12

As night soil can always be had in the towns for less than one-eighth the above supposed value, it is evidently cheaper at its cost than stable manure given to the farmer at his own door without cost, for the expense of composting, re-carting and distributing, is greater than the cost of an equivalent quantity of night soil.

Many proprietors of small farms who are desirous of pursuing *high farming*, are deterred from so doing, because at the very time their teams are required for plowing, they are compelled to cart their manures, and in consequence, it becomes necessary for them to keep more teams than their average wants require, or to hire their manures carted by others. The use of night soil and other powerful manures, obviates this difficulty, for the bulk is so small that the expense of cartage is not oppressive.

Some object to the use of powerful manures on sandy soils, because they will not last, being parted with in the gaseous form from their rapid decomposition, and only benefitting the crops for two or three years. When night soil is first made into poudrette with carbonaceous matters, it is more lasting in its effects than any other manure, which is equally serviceable, and as it contains *all the inorganic constituents of plants, none of which are volatile*, the farmer must be blind indeed to his own interest, who does not use it when obtainable. The saving in cartage, labor, &c., in the use of powerful manures, we shall treat of more fully under the head of *Guano*, when we reach that fertilizer in our series.

Farmers near New York, or on the line of any of the canals, can readily supply themselves with night soil; the scavengers of that or any other city, will empty their carts into a canal boat for 12½ cents per load, instead of throwing their contents into the river. If the bottom of this boat contains a quantity of charcoal

dust or decomposed peat, with an extra quantity on the deck, so as to throw in a small portion after each load of night soil in the hold, and covering the top of the cargo with plaster of paris, it will be rendered inodorous, and on arrival at its place of use, may be handled with ease and without offensive smell. During the unloading of the boat, if any smell remains, occasional sprinkling with plaster of paris will remove it.

Market gardeners sometimes object to night soil from its *compacting* the soil, but no such effect is ever produced when mixed with carbonaceous matters. The evidence of all those who have used night soil and in every country, seems to be alike, thus Arthur Young states: "On October 20, 1772, I marked divisions each of four square perches on a summer fallow; the soil a poor blue pebbly gravel, and manured these components as follows:

Produce of wheat per acre.

Per Acre. Bushels.

Soil simple.....		12½
Bushels of night soil....	320	37½
Do do do....	240	32½
Do do do....	160	31½
Cubic yards of farm yard		
compost.....	60	25
Cubic yards of farm yard		
compost.....	30	23½
1 cubic yard of chalk....	30	25

He again says: "The effect of night soil was prodigious; it just trebles the produce; in all the experiments I have made with this manure, I have ever found this result almost uniform."—*Annals of Agriculture*, vol. iii. p. 79.

We give the following from *British Husbandry*, vol. i p. 279, as the result of a series of experiments with night soil on potatoes. The quantities used were evidently excessive, but they doubtless show the comparative value of the fertilizers used.

Produce per acre.

Soil simple produced.....	120 bush.
Night soil, 10 wagon loads, each	
96 bushels.....	600 "
Night soil, 6 wagon loads, each	
96 bushels.....	650 "
Night soil, 2 wagon loads each	
96 bushels.....	500 "
Bones, 10 wagon loads, each 96	
bushels.....	650 "
Bones, 6 wagon loads, each 96	
bushels.....	640 "
Bones, 2 wagon loads, each 96	
bushels.....	560 "
Hog dung, 60 1 horse cart loads	480 "
Hog dung 30 " " " "	480 "
Yard compost 60 1 horse cart	
loads.....	300 "
Yard compost, 120 1 horse cart	
loads.....	480 "
Yard compost, 30 1 horse cart	
loads.....	140 "

The above shows that night soil and

bones are not required in excessive quantities to produce maximum results; thus six loads of night soil produced better results than ten, and even two wagon loads increased the crop, as compared with the soil simple, 380 bushels per acre, and the same ratio of facts are applicable to bone dust.

The yard compost, however, seems to have a different ratio of action, which is in strict accordance with its apparent chemical value, and requiring large amounts to raise but ordinary crops.

Many patents have been granted in France for the manufacture of "poudrette," (dried and adulterated night soil,) none of which are as economical for farmers' use as the plans we have already recommended. Some idea may be formed of the value of poudrette from the following:

"M. Bridget's poudrette was found to be an admirable dressing for land, 240 lbs. producing an effect equal to eight loads of stable manure."—*Revels*, vol. i. p. 371.

None of these manufactures, however, can be so economical as the same value of night soil mixed with charcoal dust, decomposed peat, leaves, or even soil containing a fair quantity of carbon. We have no hesitation in saying that no manure is so cheap and efficient as night soil properly prepared, and no other manure contains so many of the raw materials of which plants are formed.—*Working Farmer*.

Cotton Culture.

In looking over the *Soil of the South* to-night, I noticed an article from the pen of E. J. Copell, in which he states, that Capt. Day informed him, that he made, or thinks he will make, one bale of cotton per acre, off of several acres which had been cultivated exclusively with the hoe. Now as this goes to prove what I have endeavored, time and again, to impress upon my neighbors, in reference to cotton culture, I have concluded to embrace this opportunity of calling attention to it.

I have long entertained the opinion, that if it were possible to cultivate a crop of cotton entirely with the hoe, we would make more per acre. But as this is out of the question, the plan is, to use a plow or instrument which will do the work as near like the hoe would do it, as possible. And for this purpose, I would recommend, above all others, the Mississippi scraper or side harrow. I have used both these implements the

past year with the most satisfactory results. I invariably had all cotton land plowed early, so as to give it time to settle before planting. I run the side harrow over the beds before I plant, and open them very shallow with an opener made for the purpose—rub my seed well with ashes or lime, and strow them very regular at the rate one and a half or two bushels per acre, and cover them shallow with a block twenty-four by eighteen inches, four inches thick, with beam and handles. When my cotton is up enough for a stand, I commence running around it with the scrapers, which leaves it about an inch wide in the drill, standing on the bed in the shape of the roof of a house, and chop lightly through it with a hoe, leaving from one to three stalks in a place. After I have gone over my crop in this way, I turn on it with all my hands and put it to a stand. The balance of the work is done with the harrow, hoe and sweep. I have tried many plans, and this I find to be the best that is known to me, as by it, I make as much cotton as I possibly can pick—even here in the mountains. Now I have no doubt that if Capt. Day had plowed his cotton with the scooter and shovel, deep as planters generally do, that his cotton crop, or that part of it cultivated with the hoe, would have fallen off at least a third.

G. D. HARMON.

Soil of the South.

Address.

BY WILLIAM S. KING, MANTON, R. I.

Mr. President, and gentlemen of the New Hampshire Agricultural Society:—

It is a truth, that all have their prejudices. There is no man, no class of men, no nation, that has not prejudices, peculiar to the individual, the class, and the people.

The Lawyer, reared with a reverence for black-letter, and the mould of age, bows with a delighted awe before some statute, with its steel-trap clauses, that has come down to us, from the days of "good Queen Bess." The prolix statement of a small matter, ingeniously avoiding all reference to the facts aimed at, and rendered still more obscure by an interlarding of villainously-bad Latin, he regards as the very "perfection of human reason;" and we have seen him contend with an energy worthy of a better cause, for the retention of abuses, that, to him, were hallowed by Time.

Physicians, of every school, are filled with prejudices. The *Allopath*, pointing

back with pride to *Æsculapius* and *Hippocrates*, and to the myriads who have consented to be killed or cured, *secundam artem*, is eloquent of the beauties of the bolus and the blister; with *Epieurean* gusto he descants on the excellence of castor oil, and the beautiful effects of calomel jalap; emetics, purgatives, tonics, and febrifuges, if we may believe him, are the very poetry of practice.—Your *Homœopath* the while,—with his horror of blood-letting and blistering,—regards his *Allopathic* brother as little better than a diplomaed Spanish Inquisitor,—a graduated and licensed butcher. This disciple of *Hahnemann* woos you to your grass-covered couch and final sleep, with sugared pills and limpid drops.—*Hydropath* raves of the luxury of a plunge bath in a dark pool with the thermometer at 3°; and holds up for your admiration the wet sheets wherein you may shiver, then sweat, back to health. The *Grahamite* toils for a pallid cheek and sunken eye, by gormandizing bran bread and saw-dust puddings. In humble imitation of *Nebuchadnezzar*, he grazes on greens and cresses. Not one of these, because of the spectacles of prejudice, can see a grain of good in his brother.—And, as with the practitioners, so it is with the patients; the blind followers of the blind.

The divine who has to do with the concerns of eternity;—to prepare the souls of fellow sinners for a world and judgement to come,—we might well hope to find free from prejudice, in the contemplation of the mighty interests committed to his charge. But not Pastor and people look upon the narrow path which they themselves tread, as the very best, if not the only road to heaven. The Presbyterian is prejudiced against the formalism of the Episcopalian, who insists on kneeling when he prays, and standing when he praises God. The Baptist has his prejudices against your Presbyterian, because he does not assent to the essentiality of immersion to salvation. The Methodist roundly rates his Baptist brother for not admitting the benefits of a migratory ministry. And all fall afoul of the unfortunate Unitarian, who refuses to look through any of their spectacles, and hand him over to unconditional damnation.

The Merchant mixes with all sorts of men in his business; finds it to his interest to please all; and, as one of a class, is perhaps more free than many others from prejudice.

The Mechanic partakes much of the same character.

The Politician is a perfect pile of prejudices. In his eyes, his opponents have not one good quality; his friends no faults. Bring forth from the crowd a candidate for any office in the gift of the people,—from keeper of the pound to President,—and he, who was yesterday a worthy man and member of society, is to-day pronounced by opponents, if we credit their vituperative assertions, an unfit associate for felons. And the higher the office, the more bitter the Billingsgate. If, hereafter, the hand of History, searching among the records of the past, should by evil chance clutch a bundle of party papers,—and the wrong bundle at that,—future ages would read with astonishment, that the world, where a free press was enjoyed, had been governed by a set of scoundrels, that would disgrace Pandemonium.

But to approach a step nearer our subject, and to to-day's audience; your horse-man has his prejudices; insomuch that he who is charmed with the graceful gait and fine form of the Black-Hawk tribe, can find nothing to admire in the well-knit frame and muscular action of the Morgan horses; while on his part, the Morgan man repays the prejudice with interest. The lover of short-horns has his prejudices in favor of a square build and majestic size. The Devon breeder boasts that his favorite will come sleek and well-conditioned from a pasture where the Durham would die of starvation. And the patriotic Yankee crows a very "Chapman" note upon the merits of "our native stock"

Nations have their prejudices. "My son," said a turbaned Turk, as he pointed out to a young Mahommed, in the streets of Constantinople, a Parisian dandy, tricked out in the latest lady-killing fashion; "My son, if you ever forget God and his prophet, you will come to look like *that*!" And the eyes of the horrified little Turk, following the direction of his father's finger, gazed on the Frenchman through the mist of Moslem prejudice. The Greenlander, guzzling train oil with a relish, pities the poor John Bull, who stuffs himself with beef and plum-pudding. The wild Indian, who trod the western prairie, looked upon the white man, and the comforts of civilization, as the wolf regarded the lot of the collar-marked house-dog.

Not many months ago, the principle countries of the Earth were represented

at an "Exhibition of the industry of all Nations;" and with her elder sisters, came the Cinderella of the family—young America. Haughty Austria, paraded there her gorgeous furniture and rich hangings. Sunny France sent her Sevres ware; her ornaments of gold and her ornaments of silver; rich jewels and silks;—all that could captivate the eye of taste and refinement. Great Britain crowded her own Crystal Palace with her rich and extensive contribution. Italy, Spain, Greece, Prussia, even Turkey were represented there in gold and silver, and precious stones, statuary and fine fabrics; but Cinderella had brought with her only the implements of her toil—her daily companions,—which constant practice had enabled her to improve upon. There were plows, such as the American farmer uses; differing much from the favorite patterns of Englishmen, and all others. There were her reapers, her flour, her meat-biscuit, and many an other valuable and useful contribution.

But blear-eyed prejudice stalked thro' the long aisles of the Palace of Glass; and in all the show of this trans-atlantic sister, the older nations of the earth could see no good thing. She was the subject of their scorn, and the point of their jests. "Do you wish to be in solitude," said a presumptuous official, "go to the United States quarter,—the prairie land!"

It was our fortune to have there, among others, one man, who deserves honorable mention at this farmer's festival,—the commissioner from the state of New York, B. P. Johnson; then, as now, Secretary of the New York Agricultural Society. For many dreary weeks he stood almost alone; sad and desolate, amid the neglected contributions of his country. Who chanced to visit us, came to sneer. "These Yankee plows," said an unusually unprejudiced visitor, one day, "may do well enough among the rocks and stumps of America, but they are not comparable, for general work, to our English plows, or even the Belgian." "Do you know," retorted Johnson, "that in our country, we have fields, without a fence, or a rock, or a stump, larger than your whole island of Great Britain; and these plows are found to work well there as they will work anywhere. This flour is made from the wheat, you see yonder; and the wheat was grown on land plowed with implements like these; that crop of wheat averaged 62½ bushels to the acre, weighing 63 pounds to the bush-

el." So with the reapers. The *London Times* paraded an account of the American department, and christened McCormick's machine, "a cross betwixt a flying machine, a tread-mill, and an Astley's chariot." "That flying machine must be tested on the field," insisted the sturdy Johnson, "and let them laugh that win." The tread-mill was tried. The grain, green and storm-soaked as it was, went down before it as if it were the shares of Fate; and loud, though late, were the honest congratulations of our discomfited critics. The introduction of the American reaper, alone, was by common consent, allowed to compensate England for all the gross expenses of the exhibition. In like manner the plows were found to work well on English land. And, finally, that bitter opponent of all that is American and republican—that same *London Times*—confessed that the United States, by their contributions for ensuring the good of the many, instead of pandering to the luxuries of the few, had carried off the palm in this World's Tournament.

Why was it, that at the eleventh hour, only, was justice done to one of the competing countries? Why did thousands, whose voices were afterwards loudest in praise,—to their honor be this said,—for so long a time speak, but to scoff? Prejudice had pre-occupied their minds, and jaundiced their vision.

To be continued.

Scarlet Fever---Treatment.

DEAR SIR.—As I am writing you upon business, I concluded I would offer you a practical hint upon scarlet fever, as I consider a corner of *Soil of the South* devoted to medical recipes. For years I have been in the habit of treating scarlet fever of every grade, with an emetic of common table salt. I use it in every stage, but like all other remedies, to be speedy and effectual, it should be given early. I order it in the following formula:

Table salt, 1 teaspoonful; warm water ½ pint.

Let the patient drink rapidly until puking ensues. If one tumbler full does not puke, give another, and another, until it does come on. There is no harm in the remedy; it pukes without much if any nausea, and it is not prostrating, which is quite an idea in scarlet fever, where in almost every case in this clime, the proclivity is to debilitation. After vomiting apply a warm pepper and mush poultice to the throat, and keep it there, using a gargle of vinegar and water, and opening the bowels occasionally with a small dose of oil, or salts, or an enema.—

Scarlet fever has a typhoid tendency as a characteristic in most cases; hence a prostrating treatment is to be avoided; consequently, calomel and bloodletting are dangerous remedies, which are to be eschewed. Whenever the throat gets clogged up, the puke must be repeated as above, and if one puking does not relieve, puke the case again and again—it is the life of the patient, for the throat is the dangerous point of attack. Our success has been so signal for many years, and even this winter, with the above plan that we almost think the salt as good a remedy to cure scarlet fever, as it is for pork. It will not invariably save pork, nor will it cure every case of scarlet fever, but the above plan will cure more cases than any we have ever adopted. The great error among medical men in treating scarlet fever, is in doing too much with drastic medicine. This practice will not do; it will kill oftener than it will cure. The practice comes from a mistaken pathology, and has cost many a child its life, and caused many a mother's heart to bleed.

We repeat it—puke your case of scarlet fever repeatedly, if necessary, with salt and water; gargle the throat with warm vinegar and water; keep it poulticed; keep the patient moderately warm, and let him drink warm teas of any palatable kind; keep his bowels open occasionally; avoid purging, bleeding and blistering; and as a general rule, the ice practice, and you will certainly cure a lot of your cases. If the throat continues to swell despite of these efforts, send for a physician and have the tonsils freely scarified, and then puke him. We have found the plan eminently successful, and can confidently recommend it to others, as we have done through various medical journals. (Vide Southern Medical Journal, Boston Medical Journal, and Philadelphia Medical Journal.)

If you consider the matter worthy of a place in your Journal, you can insert it, as it may save the life of many a child in the absence of medical aid.

Yours truly, H. A. RAMSAY.

Insects Prejudicial to Fruits.

I have very much regretted my almost entire ignorance of the very useful science of Entomology—that ignorance has been to me a very great drawback in the successful culture of fruits—my pursuit in life has precluded the attainment of this most desirable knowledge—had it been within the most remote degree connected with the dry and uninviting study of the common law, I should have been stimulated by pride, if from no other motive, to have made its acquisition.

That the farmer & planter remains ignorant of it, with ample leisure to master it, is amazing. Can it be that he is determined to verify the old adage that in ignorance there is bliss?

There is not a tree or vine, I apprehend, but has its peculiar foe. If this be conceded, does it not behoove us to be constantly on our guard against their attacks?—Much may be done by constant care to dislodge them and to diminish the injury which would otherwise be done, but still we want the aid of men of science to delineate, by drawings, these minute enemies, daguerreotyping them as they appear in the work of destruction and in the various transformations which they undergo, giving us also their biography, including in it their habits, abodes, food, propagation, and finally suggesting some effectual and simple mode of destroying them.

Several years since, finding my apples all punctured by a worm which caused the fruit to fall early, I adopted a mode which I found recommended by some author, I think the late lamented Mr. Downing, with much success. I procured from an apothecary, some fifty empty quinine bottles.—In each I placed about four tablespoonfuls, together, of molasses, vinegar and water, and suspended them with a cotton string among my apple trees. The destruction of moths, wasps, fig eaters, (commonly called June bugs) &c. was immense. This I prosecuted from April till August. The only trouble was to renew the syrup after every rain. The succeeding year my apples were almost entirely exempt from the attacks of the apple worm. I conclude from this experiment which I made for two successive years, that I must have destroyed many thousand of the apple-moth, who deposits her eggs in the flower as the young apple is forming. I found also that the cabbage worm, which riddles so many fine heads, and is occasionally to be found ensconced among the tender leaves when served on the dinner table, gave me very little trouble. I conjecture from the result stated, that many of the cabbage moth shared the fate of the great foe of the apple.

These simple and cheaply made experiments satisfied me of another fact, that our wives in the management of their poultry yards could derive essential aid in the procurement in this way of the insect food so necessary, especially in the rearing of Muscovy ducks.

If my horticultural friends doubt the efficacy of my remedy for the apple moth, let them prosecute it for the other pur-

pose.

The apple is known to have foes in the woolly Aphis, the borer, the caterpillar, canker-worm, besides the worm just spoken of.

Within ten years the spread of the Aphis has been immense. It is very likely that it was brought south with trees from northern nurseries. I observed two years since in a swamp near the town of Dublin that nearly all the young alder and iron-wood bushes were perfectly white with this insect. How it got there I will not attempt to conjecture. Very probably it finds its appropriate food in these shrubs as well as in the apple.

The apple borer appears to me to be an entirely different and distinct grub from the peach borer, neither so white, large or round, and with a head much more flattened. Is it not the larvæ of a different moth?

The caterpillar all are familiar with, found in great abundance on the wild crab and wild cherry; yet if one will observe this foe closely he will find several kinds, proving that they are the progeny of different moths. They are easily destroyed.

Of the canker worm, I know nothing.

The vine too, has several enemies. So destructive was the *Pyralis* once to the vineyards of France that a large premium was proposed by the government as a reward to him who would furnish the most successful mode of destroying this insect.

Monsieur Audoin recommended the placing of bell glasses smeared with oil, over lights in the vineyards.

The results were eminently successful. Does not this established fact suggest to a reflecting mind the propriety of kindling fires, burning stumps and brush in the spring season, and at night always, with a view to the destruction of the numerous moths, so unfriendly to our interest?—Might not our cotton planters, by all of them in any belt of country acting in concert in trying this simple suggestion, rid themselves of the diseases and destruction produced by the army and boll worm; It is worth a trial. The great staple of France has been protected by an experiment of a similar kind.

The plum, apricot and nectarine and peach have a foe of terrific character in the curculio, called the Turk, from the crescent shaped puncture made by it on these fruits at the moment of depositing its egg.

As yet, it spreads its devastation through every section of the Union, and its march seems incapable of being arrested. Thousands are ignorant of its very form. They know not the origin of this beetle; its food;

habitation or habitudes. It is not to be tempted by honey and water or molasses and vinegar, into the wide mouthed bottles which decoy the moths and wasps to destruction. Sulphur and tobacco fumes have been employed to dislodge it; lime water, salt water, ammonia, and every compound of villainous smells have been tried—but it goes on, conquering and to conquer.

It occurs to me that a contribution by horticulturists of a premium of \$100,000 would be a moderate one to the entomologists who would thoroughly investigate the history of this dreaded little enemy, and give to the world a simple, cheap, and efficient antidote against its ravages.

I have been almost tempted to discontinue any further effort to cultivate the three first of these last named fruits, in consequence of this little rascal.

I have spun out this article longer than I intended, and yet much, very much is omitted which ought to be generally known. I may at another time pursue this subject.—*Ibid.*

I. L. HARRIS.

From the American Farmer.

As to the Proper Application of Manure.
TAREBORO' N. C. Nov. 1852.

DEAR SIR:—Allow me to trouble you with a few questions upon a subject which is just now attracting considerable attention among the planters of this region.

1. Which is the better mode of applying manure, broadcast, or in the drill?

2. What is the custom in the New England states? What is the custom in the Middle states?

Your attention to these queries is respectfully requested at an early date.

PANOLA, JR.

Replies by the Editor.

1. If the general improvement of the soil be the object, which ought to be the object with every good farmer, there can be question but that broadcast manuring, is infinitely preferable to manuring in the drill or hill. If the crop to be grown be corn, broadcast manuring is the best, and for the following reasons: The lateral roots of the corn extend from row to row, say from 3 to 4 feet—their mouths or ducts are situated at the extreme ends of such lateral root, so that they can derive but little if any benefit, from manure placed in the hill or drill; whenever such roots extend beyond the limits of such places of deposit, they are cut off from the sources of nutrimental supply. But if the manure be equally distributed throughout the soil, wherever the roots may travel, or whithersoever they may extend, they come in contact with food, and hereby prosper, luxuriate in growth, and

are enabled to mature the grain. Manure placed in the hill or drill, in the first stages of the growth of the corn plant, exert a happy influence in urging forth their growth; but, as we have just stated, whenever the roots expand beyond the range of manure thus partially supplied, they are out of the reach of the manure intended to nurture them, their mouths being greatly beyond the places of deposit.

If potatoes, turnips, carrots and parsnips, be the crops cultivated, and they be cultivated in drills, the drills are the proper places for manure, as the lateral roots of these crops do not reach much, if any, beyond the limits of the drills, and their mouths will always be within the range of the food.

2. In England, where the drill culture is most practised, the manure is deposited in the drills. The turnip is to her farmers, what the corn crop is to us; but as the roots of the turnip do not extend as do those of corn, some three or four feet, there is no analogy whatever between the practices of the two countries. In England, too, they apply the manure in the drills, for the same reason, to crops of potatoes, mangold wurtzel, &c. But though they there manure in the drills to these crops, almost universally, so far as the culture of the turnip is concerned, the land may be said to be broadcast manured also; for the turnips are eaten off the ground in hurdles by the sheep, which in dropping the manure, may be said to do so by the broadcast plan. Turnips precede wheat, so that this latter crop may be said to be manured both broadcast and in the drills; broadcast by the sheep, and in the drills at the time of seeding. Indeed, the manure given to the turnips may be said to be broadcasted also, as the drills being but from 9 to 12 inches asunder, the process of cross-ploughing effects a very general distribution of the manure throughout the soil.

3. The farmers of New England vary in their methods of applying their manure, as well as the farmers of other states; some apply it broadcast—others in the hill. But then they tend but a few acres, compared with the farmers and planters of the middle and southern states, and are, therefore, enabled to give much more manure to their crops than those of the latter states. Some corn growers in New-England, manure both broadcast and in the hill, for corn—as we would always do—first, to secure general fertility to the soil, and secondly, to urge forward the growth of the plants when young.

See that your fences are in good order.

Cultivation of Corn.

"I'll cross it though it blast me."

MESSRS. EDITORS:—I have watched the mode of cultivating the corn crop, and witnessed the ruinous results of the repeated deep plowings universally practiced, with absorbing interests for a series of years, and have at times very nearly matured the determination to come out in open denunciation of the plan, in defiance of Broomsedge and the world. But then comes the sober second-thought—Is it reasonable to suppose that my effort would be viewed in any other light than as a tilt in a tournament—as the visionary speculations of a Quixotic dreamer, intended to destroy the long established relation between reason and common experience? For, right or wrong, it has had the sanction of the whole American family from the earliest period of our national history.

But really, sirs, the subject is one of momentous consideration, and unable further to resist the conviction that the practice is essentially ruinous in very many instances, and to some extent injurious in all, I have at last come to the conclusion to risk my humble reputation on the broad assertion that the services of the plow, the most ancient and venerated of all the implements of agriculture, should only be called into requisition as a means of effecting a thorough preparation of the land. But that it should be superseded in the subsequent cultivation of the crop by the sweep, or some similar contrivance, designed to act exclusively on the surface.

The reasons relied upon for the support of this proposition are few in number, and derive their principal force from what is regarded as a correct appreciation of the physiological importance of the roots of plants. Reason and observation, have long since established the following facts: 1st. That the corn plant obtains much the largest portion of its sustenance from the soil, by absorption through its roots.—2d. That for this purpose it has a larger supply of tubers perhaps than any known tillage plant. And, lastly, that each one of these, no matter how small, contributes its proportional share towards the support of the main stalk.

These facts impress every reflecting mind with all the force of self evident truth, and yet there are hundreds of farmers throughout the country, whose gray hairs evince the most enlarged experience, and who, though sane on other subjects, openly advocate the root breaking policy, as a means, *per se*, of imparting renewed vigor, and power of development to the plant.

The corn plant is truly an interesting specimen of animated nature. Its modes of existence are analagous in many respects to the higher order of beings. Man himself is sustained by a system of absorbent vessels, whose innumerable mouths line the inner surface of his intestinal canal, and absorb the elements of nutrition from his food. And yet, this wonder which science has revealed, is scarcely more complicated, and certainly not less clearly under the control of vital law in man, than that by which the corn plant sends forth its roots into the soil, and absorbs therefrom those elements suited to its growth, *but nothing else.*

But the analogy does not stop here. It is found in both cases, that a suspension of the nutritive supply, or impediments to the digestive process, never fails to retard the progress of development in a corresponding ratio. But the injury to the corn plant from a laceration of any one of its roots, is not to be estimated simply by what it contributes daily to the support of the main stalk, for it is known that a very exhausting depletion follows, and it becomes a waste-gate through which the contributions of other feeders is discharged.

To assume that the corn plant sustains no injury from a laceration of its roots, is to arraign the economy of nature on a charge of having furnished it with a useless and redundant supply, a supposition at once disproved by the universal fitness of things, and the pervading harmony of all nature's laws. Its supply of roots is no doubt just sufficient for its physical necessities, and no more. It is true that a fruit tree may be made more prolific by lopping a portion of its branches, and even in animals, an eye or an arm is said to have its functions improved by removing its fellow. But the analogy loses all its force when applied to the tubers of living plants.—No one expects to improve a fruit tree by a laceration of its roots—nor could the eye or the arm be invigorated by an injury of the digestive organs. The roots to the corn plant, are what the stomach is to animals, the great chylopoietic source from which all the other organs obtain their support.

From this view of the physiological importance of the roots of plants, the ruinous results of repeated deep plowings must be at once recognized. Nor have I any doubt but that in this way, and from this cause alone, the defection of the corn crop annually in the United States, if correctly estimated, would startle and overwhelm, both the theoretical and practical farmers

of the whole country. All the wealth of all the Rothschilds would fail to compensate the losses sustained from this cause by the corn growers of the United States, during the short period of their national history. There is scarcely a man of observation who does not recognize the mischief, acknowledge it, and regret it, at some period of his annual operations.—But he has been taught to regard it as an evil against which he is without a resource. As a policy that comes recommended by the wisdom and experience of his ancestors for centuries, and which it would be rashness, hardihood and folly to disregard.—And under the influence of these powerful sanctions he stakes the promised fruits of a whole year of toil and privation, upon a single cast of the die, the last plowing of his crop.

The mischief to be apprehended from the destruction of the roots, must be in proportion to the frequency with which the operation is performed. And is always most serious when the plant is approaching maturity. The great vascularity of the corn plant, and the readiness with which it expands its myriads of tubers, enables it under favorable seasons, and in fertile soils, to recover rapidly from the injury imposed.—but even then, whilst in the midway stage of advancement, if the season is adverse, a condition of rickety decline is soon apparent. And under similar circumstances, if done near the period of silking, a fatal marasmus is the inevitable consequence.

If, then, I have not attached an undue importance to the agency of the roots of the corn plant, it must be at once admitted, that the plow, independently of all the advantages ascribed to it, imposes on the balance sheet, a most serious, yea, withering drawback. And that its use in the cultivation of the tillage crops, can only be justified by incontrovertible proof of some highly compensating, and overbalancing advantages. And even then the verdict would be such an one, as is often met with in morals—the end is made to sanctify the means—evil is tolerated that good may come of it.

This brings us to the main question under consideration:—Of what use is the plow in the cultivation of the corn crop? What advantages are secured from its constant and persevering employment? What object have we in view that imposes a necessity, so unrelenting and imperious? The common impression is, that plowing the corn crop is designed to accomplish two highly important purposes: to kill grass and weeds, and to loosen the soil around the plants, as a means of facilitating the penetration of their roots. As respects the first, it cannot be denied that the plow is an efficient re-

source. But it is decidedly inferior to the sweep, much more tedious, and vastly more laborious. As to the second part of the proposition, it involves an absurdity that must be apparent on a moment's reflection.—Were it possible to loosen the soil occasionally, in very compact lands, without breaking the roots of the plants, the plan would be at least plausible, and in all probability advantageous. But the idea of plowing some three or four times during the summer months, to facilitate the penetration of roots, when at each and every operation the one half if not two thirds of all that have formed since the last plowing are completely destroyed, becomes ridiculous and absurd. A corn stalk shorn every two or three weeks of its roots, would be about as much benefited in this respect by the plow, as a blind man by the use of spectacles.

This brings us to the question: Is the plow necessary at all, as a means of loosening the soil in the cultivation of the corn crop, on lands that have been deeply broken, and well pulverized previously to planting? Can a soil thus prepared become so compact in the short period of three or four months, as to interpose insuperable obstacles to the penetration of its roots? On this ground I take issue with the advocates of the plow, strongly impressed with the belief, that it is condemned by the lights of observation, and refuted by the researches of scientific men in regard to the depth to which plants are now known to extend their roots.

No one had conceived the idea that the silken tubers of the corn plant ever extended ten feet; or the roots of wheat three below the surface. But observation has now established the affirmative of the proposition. But the depth attained is not so much a matter of surprise, as the facility with which it is accomplished, even in the hardest lands. The sassafras, and most of the tap-rooted shrubs and plants, penetrate the most compact clay, far below the reach of the deepest subsoil plowing. Whilst the oak, the locust, and other forest trees, actually perforate the entire clay stratum, varying in this region from twenty to thirty feet in thickness, and which has been solidifying and hardening, from the beginning of the world. The roots of the May-flower (mandrake) though apparently of a soft and delicate organization, are known to pervade the subsoil to the depth of three or four feet, and have been seen to sprout at that depth from a newly dug drain, where the clay was so compact that a heavy stroke with a mattock would scarcely make an impression.

With these facts before us, it would seem

to require an extraordinary stretch of credulity to conduct us to the conclusion, that land should be plowed some three or four times during crop time, in order to facilitate the expansion of roots. If the tubers of shrubs, and other plants, penetrate the *unbroken* subsoil in the manner described, is it reasonable to suppose that the corn plant, the greatest god-send to man, can meet with insuperable obstacles in a soil thoroughly subsoiled and pulverized before planting? And that its necessities in this respect are so imperious, that it must be done every three weeks, at furthest, though it involves the destruction of the greater part of its roots, and a truly exhausting amount of animal toil to accomplish it. The theory is in my humble opinion false and unphilosophical, and the practice greatly subversive of the agricultural interest of the whole country.

But it is argued by the advocates of the plow, that stirring the land simply is beneficial to the crop, nor have I any doubt but this assumption philosophically examined will be found to be, *vox et multum preterita*. The tendency of heavy rains, especially on cohesive lands, is to form a firm, resisting whitened crust over the entire surface, which instead of absorbing, reflects both the light and heat, of the solar rays, the water in descending from the surface, having carried down the vegetable mould which imparts the dark shade to lands but recently plowed, and gives them the power to absorb, not only light and heat, but the various fertilizing gases of the atmosphere. The tendency of finely pulverized earth to absorb these, is no longer a doubtful question. Dana's dead cat continued to emit an offensive stench though covered all over with clods. But it ceased on the application of a layer of pulverized earth. That stirring the land is highly advantageous in this respect there can be no doubt. But as the surface alone comes in contact both with the atmosphere and the solar rays, it is but reasonable to suppose, that all the advantages arising from this source are amply secured by the persevering application of the sweep.

Soils are very common both in this country and in Europe, that are too light and porous, and whose productive powers are greatly improved by the pressure of the hoof, and where this is not available, the heaviest rollers are substituted and applied at a cost of much labor, a fact which goes to prove, at least, that a certain degree of density or compactness is most favorable to vegetation.

But apart from the arguments which up to this point have been based simply on the reason and nature of things, the position I

have assumed derives strong confirmation from a series of experiments which have been carried out under my own observation, and that of others, to which I will refer.—During the last summer (1852) I determined to test the principle involved, on a piece of tenacious clay land, very much disposed to cohere after heavy rains. The field was prepared by a thorough deep plowing previous to planting. The corn was drilled at a distance of four and a half feet. Twelve rows were selected near the middle of the field, and stakes driven at the ends to designate them. Soon after the corn came up, the middles were broken deeply with a narrow subsoil gopher. The twelve rows were tilled subsequently with the sweep alone, whilst the rest of the field received two plowings with large half shovels in the usual way. The result was a perceptible superiority in favor of the twelve rows. The stalks were larger, the ears heavier, and the silking some eight or ten days in advance of the surrounding corn. And on my return after an absence of a month from the State, I discovered what I anticipated, that the twelve rows in question, were much less effected by the gale in August, still maintaining their upright position, much more successfully than the rest of the field. These facts were brought to the notice of my friend Maj. ROBINSON, and my neighbor Mr. MARTIN, who concur with me in the opinion, that the difference must have resulted from the mode of cultivation. The seasons however were quite favorable throughout, and although the experiment may not be conclusive as to what the result would have been had they been adverse, yet if the theory adopted in this communication has any foundation in truth, the difference in favor of the unplowed corn, should have been still more apparent. But as experiments cautiously made are at last the only reliable guides, I shall test the plan by further trials the present and succeeding seasons, until its truth or falsity is clearly established.

In 1844, I examined a field of eighty acres of low grounds on the Seneca River, on the farm of my late friend THOS. M. SLOAN, and which he regarded as the best crop the land had produced for twenty years. It had been deeply plowed previous to planting, but was tended subsequently with the sweep alone. I have witnessed several similar experiments on low grounds within the last two or three years, in all of which the results were equally satisfactory and conclusive. Should experience determine as much in its favor on the up-lands, I shall regard it as an improvement in the art of

tillage that must confer incalculable advantages on the farmers of the United States. These may be summed up in very few words. It is admitted that the labor of preparing the land by thorough deep plowing is the same in both cases, and may be performed at the same season of the year. But here the parallel ceases; under the root breaking policy the plow is urged at great depth, during the heat of the entire summer, at a humiliating cost of animal labor, whilst the sweep which should barely stir the surface, adds but little to the labor of simply walking over the land. With the plow (and it must of course be a large one, and of heavy draft) the farmer's highest performance is two acres per day. But the sweep, which moves at an accelerated pace, with a furrow slice of more than double width, will accomplish from four to six. From all which, it is apparent, that by commencing the preparation of the land in the fall season, and turning in leisurely the vast amount of grass, weeds, and stubble, which will be found on farms where a judicious rotation of crops is pursued, at least one half of the plow horses commonly employed may be dispensed with, and the cost and labor of cultivation correspondingly diminished, without taking into consideration the number, greater cost, and wear and tear of implements, inseparable from the present policy of the country, and the increased yield of the crop anticipated from the plan of cultivation.

O. R. BROYLES.

Anderson c. h., S. C., April, '53.

For the Farmer and Planter.

Interesting Experiment.

MESSRS. EDITORS:—In renewing my subscription I will take the opportunity of detailing the result of an experiment which I tried the past summer, and which may be of interest to you and your readers.

At my summer residence in the Piney woods, which I purchased three years ago, is a piece of land about three acres in extent, which I can describe in no better way than as miserably poor. With favorable seasons it might probably have produced ten bushels to the acre. For the sake of convenience, and by way of distinction, I will designate the three acres by the three degrees of comparison as 'poor,' 'poorer,' 'poorest.' The poor acre, and apart of the poorer, was in a tough sward, and had been used as a pasture. The other acre and a half had the remains of what seemed to be a pea stubble upon it, but so sparse and small was the growth that it was difficult to say what it was—

it had been, at all events, in cultivation. In the spring of 1851, I had it deeply broke with a Davis 7 inch plow, and the poor acre, and part of the poorer, or that part which had been in pasture, sown broad-cast in peas. The other portion, or that part which had been previously cultivated, I had planted in peas, and worked through the summer with the plow and hoe. The result was, on both portions, a very scanty crop of peas. Towards the end of the same year, I had the poorest acre sown in rye, which came up well, but grew very little during the fall and winter. During the winter, I had hauled upon the poor acre about 145 single cart loads of creek mud, which was allowed to stand exposed to the winter freezes until the middle of March, when it was spread and deeply plowed in. On the poorer acre just before this plowing, I had about 65 single cart loads hauled and spread broad-cast, and about the same time, on the poorest acre I had spread about 250 lbs. of Peruvian guano, which had been previously well mixed with a half bushel of plaster. On the 26th of March the land was laid off into 4 feet rows, and the corn dropped in hills about 2 ft. apart. On the poor acre a little dirt was thrown upon it with the foot, upon this was thrown a shovel full of stable manure and then this covered with a three foot harrow. A good stand appeared which was thinned out to one stalk in a hill. The first plowing was given by running the bar of the plow as usual next to the corn, in the furrow thus made a bull tongue plow was run as deep as it could go; and not long after the middles were deeply broken up with the same plow, but in such a manner as not to throw the earth back into the furrow made by the turning plow next to the corn. About ten days thereafter manure was dropped in the furrow on each side of every stock of corn. This manure was of different kinds—beginning at the poorest acre, it was guano, about a table-spoonful (an oyster shell being the measure), as far as it would go—then night soil mixed with ashes, as far as it would go—then stable manure—then cotton seed which had been tramped in the stalls. The harrow was then run twice between each row, thus covering the manure, and breaking and levelling the middles. The corn was afterwards plowed over very shallow with a Davis plow. It was worked over with the hoe after being harrowed, and was not killed. At the last plowing the land was sown broad-cast in peas. The corn on the poor acre looked most thrifty and grew off, but, at first, that on the poorer acre was not far behind in

appearance, while that on the poorest, or guanoed acre, looked for some time small and unthrifty, with many scalded stalks, and seemed hardly to hold out during the severe drought of May, June and a part of July. During all this time, however, the corn did not burn, but continued to look green, which I attributed to the subsoiled furrow and the deep plowing of the middles. After the rains of July set in, which continued through August, the poorest, or guanoed acre, seemed steadily to improve, as did also the next or poorer acre, both of which looked much better than the poor acre. After the fodder was pulled, the peas grew off finely. I think they were best on the composted acre. (I should have stated that the compost was made of stable manure, creek mud and oak leaves, spread in alternating layers). The corn was carefully gathered in November, and placed in separate heaps in the crib, and was afterwards measured in baskets. The poor acre produced a fraction over 25 bushels. The poorer or composted acre, 30 bushels, and the poorest or guanoed acre, 40 bushels. The last named was in every respect the best corn, the ears being larger and fuller. The guano cost me about \$46 per ton. Yours, &c., P. M. E.

From the Southern Planter.

Guano as a Permanent Fertilizer.

MR. EDITOR:—At your request, and for the information of the large number of farmers yet inexperienced in the use of guano, I proceed to give you some account of my own experience with it, and opinion of its effect as a permanent fertilizer, in conjunction with clover—and that this article may not cumber the columns of your valuable journal, shall condense it as much as possible.

I commenced using the article in the year 1847, and applied three tons, procured in Boston, there being none nearer at that day. This was, I believe, the Schabo Island guano. The next year I used ten tons of Saldana Bay guano, and every year since have applied from ten to fifteen tons, having spread it over a surface of nearly four hundred acres of land—some in our forest, and the rest on the Rappahannock river. Until last fall I have always used plaster with it, in the proportion of one part of plaster to two of guano. Last fall I used it without plaster, and certainly if I am to judge by this one trial without plaster, I have gained nothing by using it alone.

It is right that I should show the only instance of failure on wheat in all this

time, and will do so, as a former article of mine might lead some one into error.

In May, 1851, I commenced fallowing Rappahannock river land for wheat, and sowed Peruvian guano, 200 lbs. per acre and 100 lbs. plaster before and as the land was fallowed. Before the time for a second ploughing of this land, preparatory to seeding wheat, I had a prodigious growth of crab grass; and on all this land I had a complete failure of the wheat crop: whether from the grass rendering the land too porous for wheat, or some other reason, I do not say; but there is now a fine stand of clover, having a very strong and thrifty appearance, and the land itself many shades darker in color.

In the winter of 1851, I ploughed up two fields guanoed and clovered in the years 1847 and '48. All this land was previously very poor; part of it a mere desert. The growth of clover had been very good. One field, that was guanoed in 1848 with 400 pounds per acre, made over seven barrels of corn per acre—that guanoed in the fall of '47 with 200 pounds per acre, failed in consequence of worms cutting off the corn, to make more than five barrels per acre. On both these fields, at the time of ploughing, I applied broadcast about 125 pounds of Peruvian guano per acre. It will be remembered that the year 1851 was exceedingly dry, and all the month of July, the blades of corn were so wilted that it was impossible the corn could make well. The crop was certainly a good one for any high land in so severe a drought.

In 1852, I ploughed a field for corn, guanoed in the year 1849 with 300 lbs. of African guano (Saldana Bay) without applying any more guano. On this land, where formerly clover would not grow, I had a remarkably fine growth of clover. I sowed the seed in September when the wheat and guano was seeded, and one month after the harvest of 1850, the clover was all over the field knee high to a tall man, and entirely hiding the land. It was the same, or nearly so, in 1851, a very dry year. This field last year made over eight barrels of corn per acre—part of it, a large part, having a very imperfect stand of corn. This land, before it was guanoed in 1849, and clovered, was extremely poor, it would not have averaged over two barrels of corn per acre.

I also planted, last year, a piece of land from which the pine growth had just been cleared, on which no manure

of any kind was applied, except about 100 pounds of guano per acre, spread broadcast before ploughing. Owing to certain circumstances, I was unable to do more than half work the field, yet it made about six barrels of corn per acre. My conclusion, then, is, that guano is as permanent as any kind of manure: and when the small expense of the application of it to the land is considered, the cheapest manure with which I am acquainted.

My opinion is, that for corn or any other crop, it should always be applied broadcast, it being not only a direct fertilizer in itself, but also a solvent of otherwise insoluble vegetable remains in the soil, and this I conceive not its least valuable effect.

I do not deem it necessary to say much about its effect on the wheat crop on very poor land. It has become nearly as necessary hereabout to farmers as bread to a hungry man. The effects are various; depending on quality of land, and the quantity and mode of application, perhaps. I have known as high as 30 bushels per acre, to be made from very poor land.

And in conclusion, I would strenuously advise all farmers to sow clover wherever it is applied, and to use plaster either with the guano, or on the surface of the land.

H. FAIRFAX.

Cameron, K. Geo., Va. Feb. 1853.

From the American Farmer.

Effect of Guano upon an exhausted Sedge Field.

I take the liberty of making a statement relative to the use of guano upon eight acres of land that had been so completely exhausted by a tenant that it was not considered worth cultivating at the time that Mr. Moncure took possession of it. Upon the eight acres of land, Mr. Moncure seeded ten bushels of wheat, after ploughing in one hundred and forty pounds of guano on each acre, with a common two-horse plough. He made from the eight acres, one hundred and eighty bushels of first rate wheat, being a yield of eighteen bushels for every one seeded. This, on brown sedge land, that was bought for three dollars per acre, is enough to establish the reputation of worn-out Stafford lands beyond a question.

R. ASHBY.

Hog Raising.

The interest in raising our own pork, fluctuates with the price. When western bacon and pork are cheap, little attention is given to this branch of hus-

bandry in the cotton growing sections, and a few successive years of low prices almost extinguishes the whole pig race on many plantations. "Cheaper to buy than raise," is the cry, and paper estimates often seem to sustain the declaration. But when the scale turns, as turn it will, the whole country is in a stir for hogs; the best breeds, and the shortest process for raising, are in demand. The country is now upon a crisis of this sort. We think, the better plan is to have some rule on this subject. To consider pork raising, as a part of the arrangements, on all our plantations, and though cotton may go high, and pork low, to stick to it. It is not the work of a day, or even of a year to restock the farm with hogs when once it has run down. The damage by fluctuations in price, may not be avoided speedily, and when you have gotten fully into the business of raising, it is better to hold on, though the calculations may seem to be occasionally against you. When the emergency comes, you will be ready, and when it does not, you will be independent. Much interest is now awakened as to the best breeds. Good treatment has much to do in making the hog, and with it, almost all kinds succeed. Yet we think much improvement may be made by proper selections and crosses, perhaps quite as much as in any other class of animals.

From the observations which we have been able to make, the Irish grazier is one of the best stocks for general use, and crossed upon the (despised and rejected) Berkshire, makes a hog of fine thrift and size. We regarded the pure grazier as the best stock for common plantation purposes, exhibited at Macon last fall. The specimens of Suffolk pigs on exhibition, were most beautiful.— They were pure white, with thin skin, seemed to be remarkable for small bone, round heavy body, with great capacity to take on fat—all good points. They would be charming fellows for a roast, but we are not prepared to say what they would do as plantation porkers. We are disposed to think that they would form a good base, upon which to cross, and the same may be said of the pure old-time Guinea hog. Good form, small bone, heavy fleshed and great thrift. With all these essential points combined, nothing remains to be done but to increase the size to your liking, by crossing.

We have seen some accounts of the Essex hog which impressed us favorably, and we are inclined to think that it

would meet our wants on the southern plantation. It is claimed for them that they have fine form, grow rapidly to great size, and are easily fattened at any age. We should be pleased to see them introduced, and have great confidence that they would form a valuable acquisition to our stock.

As the days of hog raising, upon what they can pick and root in the woods, are passed, we have no longer need of long legs or long snouts, but want instead, small bone, with heavy and round body, and easily fattened, at twelve or fifteen months old. It is getting to be doubtful in our changed circumstances, whether this is not the best age for slaughtering. With good treatment, hogs at this age may be made to weigh two hundred lbs., and it is therefore doubtful whether at two years old, the increased weight would pay for the difference in cost.— We have demonstrated by experiment, the truth of our first proposition, that at one year old, they may with proper care, be made of the size which we have stated, and we are now extending the experiment, with some of the same stock, to see what will be done by adding another year.—*Soil of the South.*

Sandy Soils and their Management.

The character and treatment of sandy soils, are in almost every particular the reverse of those of clay. They do not possess the property of adhesiveness, and they have but little affinity for water, which escapes from them almost as soon as it falls. They have but a slight hold upon the manures which are diffused through them; they are loose in their texture, and may be plowed at any time with equal advantage, provided the sowing or planting is to follow immediately.

As clay soils are much benefitted by a mixture of sand, so likewise are sandy soils greatly improved by the addition of clay, yet in a much higher degree; for though it would never pay, as a general rule, to add sand to clay, yet the addition of a few loads of the stiffest clay to a light sand, would in almost every instance much more than compensate for the trouble and expense. For this purpose the clay should be thinly spread in autumn upon sward land previously plowed, and the winter's frost will effectually separate the particles. It should then be harrowed thoroughly and deeply in the spring, and subsequently plowed if necessary. Such a dressing on a light crawling land, is more than equivalent to an equal quantity of the best manure.

and will be permanent in its effects.—Clay and sand are necessary to each other, as they both contain qualities which are essential to good soil; and that will always be found the best, which has the proper proportion of each.

Sandy soils are improved by the frequent use of a heavy roller; it cannot be used too often. They require to be made more compact, and any treatment that secures this object, will be advantageous.

Lime, by its chemical action on the constituents of soils, while it separates clay, renders sand more adhesive; and when cheaply obtained, it is always a profitable dressing for sandy soils, to the full amount they may require. Gypsum, in considerable quantities, has an effect similar to lime, both on clay and sand, and when added in similar portions, produces a striking increase in the crops of sandy soils. Clay marls containing either carbonate, sulphate, or phosphate of lime, are of great value to sandy soils. Equally beneficial are ashes, leached or unleached, peat or vegetable manures of any kind. Some calcareous sands, containing a large proportion of lime, like those of Egypt and extensive regions in the Barbary States, will produce luxuriantly, if supplied with a slight addition of manure and an abundance of water. Sandy soils can never be profitably cultivated till they have acquired sufficient compactness and fertility to sustain a good growth of grass or clover; and when once brought to this condition, they are among the most valuable.

They are, at all times, easily plowed and worked; they require no draining; and though light and dry, are quick and kindly soils, giving an immediate and full return for the labor and manure bestowed upon them. When in a condition to produce grass, sheep are eminently adapted to preserve and augment their fertility, and by their incessant migrations over it, their sharp hoofs pack the surface closely, producing the same effect as the roller.—*Southern Cultivator.*

Hair Oil.

To make a beautiful oil for the hair, take a pint of olive oil, and bring it up to 200 degrees of heat in a clean pan, (not iron) and add half an ounce of pearl-ash. Stir well for about ten minutes. Take it off and set it to cool; a sediment will be found at the bottom. Pour off the clean through a cotton cloth, and put it up in a bottle for use. The pearl-ash combines with the margaric acid in the

oil, leaving the olein; this will not get thick and will be free from odor. It can be colored with garancia, a preparation from madder, but hair oils should never be colored. All the hair oils of the perfumers are either a red or a yellow color, this is to please the eye of the buyer, who mistakes an adulterated for a superior article. Hair oils should be clear and nearly colorless. By exposing the olive oil, refined as described, in the sun in well corked bottles, it will soon become colorless, limpid as water, and exceedingly beautiful. Any person can thus prepare hair oil.—*Scientific American.*

Plant Antipathies.

MR. EDITOR:—Noticing in your paper of October 2d, that if sunflowers are planted among thistles, the latter will cease to thrive and will soon die out, I am induced to say a word or two upon a subject that has often arrested my attention. I will first state a few facts, and then make a remark of a general character.

It is an old observation, that barberry bushes will spoil a rye field. I have more than once seen the heads of rye in the immediate vicinity of a barberry bush, as erect as so many soldiers, while all the heads at a little distance were bowed down with a heavy burden.

A year ago last spring, I had a fine Catawba grape-vine trained on to a wall in a warm place. It was in a bearing condition, and every circumstance promised a good crop. Some tomatoes were planted by the wall, that they might have the advantage of the warmth and protection afforded by it. They grew thriftily. Most of the plants were removed, but three fine ones were left, in the immediate vicinity of the grape vine. They grew there and yielded any quantity of tomatoes. But the grape vine was at a stand still all summer. It made but a few inches of wood, and only two or three clusters were produced, and those blighted; not a single grape came to perfection.

Some few years ago, I set out a peach tree against another part of the same wall, and trained it to the wall; at the distance of some ten feet was a fine Isabella grape in a bearing state. They both grew finely; I never saw a more thrifty peach tree. In about two years, the grape vine, as grape vines are apt to do, got hold of the doctrine of annexation, and manifested a disposition to embrace in its long arms all that joined it; it shot its feelers about among the limbs of the peach tree, and in a few weeks its

folds, anaconda like, were entwined around all the branches; but as is often the case in ill assorted matches, this seeming felicity did not long continue. A few half grown imperfect grapes only were found among the peach leaves.—The next year the vine was suffered to remain in the same condition, as a matter for observation; the result was the same. While the rest of the vine was heavily loaded with fruit, that portion which was supported by the peach tree yielded few grapes, and none of them perfect.

This fall I have had occasion to notice a field of potatoes of perhaps an acre.—Tomatoes came up plentifully in the spring, having been mixed in the manure. The man was directed, when he hoed the potatoes, to cut up the tomato plants, and to leave one only now and then. But they were very thrifty, and John thought it was too cruel to cut them up, and he had not the heart to see them killed with the hoe, and so many of them were suffered to live. The consequence has been, that there was a great abundance of tomatoes, and a very small abundance of potatoes, and small potatoes at that. In those parts of the field where there were few tomatoes left, the potatoes yielded a tolerable crop; but where the tomato plants were numerous the potatoes were scarcely worth digging. Now it may be said that the tomatoes overshadowed the potatoes or exhausted the soil; but this does not explain the matter satisfactorily; for potatoes will often yield a good crop among corn, which certainly overshadows them and exhausts the soil to as great a degree. I might mention many similar facts had I time and space.

My general remark is this: 'There are many plants that are incompatible with each other. There is an *aura*, an *effluvia*, arising from one plant that operates as a poison upon other plants. One plant will wither and die in the presence of another. Some plants are more highly sensitive than others, and manifest more readily the influence of the neighborhood in which they reside.

Now, Mr. Editor, here is a wide field for observation, and a field which has been but little cultivated. It is important to know, not only what soils are suited to certain crops, but what crops and plants are suited to each other, and what are incompatible with each other. If you were about to settle your boy in business, you would anxiously inquire,

by what influences will he be surrounded? Will there be anything to counteract all the good advice you may give him, and all the watchful care you may extend over him. Just so if you are about to set out a favorite tree or a valuable plant, you should know whether it is any plant in the immediate vicinity that will injure its growth, or prevent its fruit from attaining perfection. We sometimes fail to obtain the results that we expected in horticulture, without being able to assign any satisfactory reason.—Perhaps the failure is owing to unfriendly neighbors, who exert a blighting influence upon the character and success of the stranger plant.

The influence of flowers upon each other, and the influence of the colors of surrounding objects, are well known to florists; and those who are engaged in producing varieties and hybrids avail themselves of these influences. If these influences are so manifest in the domains of Flora, why should they not be felt in those of Ceres and Pomona?—*Dr. Reynolds, in New England Farmer.*

Seeding Woods Pastures.

The woods pastures of Kentucky are the admiration of all travellers who visit the farming districts of that state. These pastures are composed almost wholly of the *poa pratensis* or blue grass, which thrives remarkably on the rich, deep clayey limestone soils of that region, producing more abundant foliage than in more northern latitudes and on poorer soils.—Similar pastures are often seen in central and southern Ohio, also in Indiana, and in other states, and might be made quite common on good soils, if pains were taken to produce them.] The following remarks on the seeding and management of such pastures are from the pen of SAMUEL D. MARTIN, one of the most experienced and talented agriculturists of Kentucky, and credited to the *Southern Cultivator*:—*Ohio Farmer.*

After it has been determined what seeds to sow, it is important to have them of a good quality. Blue grass seed is often injured by heating after they are gathered. They are bought by our merchants in large quantities and are put in bulk, and not being quite dry they sometimes heat and destroy their vitality. When this is the case, it can be known by the smell, which shows that a rotting process has commenced. Good seed will come up at almost any age, yet clover seed not more than a year old is not worth more than half as much as fresh seed; for al-

though it will come up, it will not come up together, but at different periods, so as to make the crop uneven. Fresh clover seed may be known by their brightness, each seed appearing as if it had been glazed.

Blue grass and timothy may be sown at any time from September to April. A snow is usually chosen to sow, because the seeds may then be distributed more evenly without the trouble of marking off the ground. And I have generally sown blue grass seed first, and then crossed the ground in a different direction with timothy. The blue grass seed will be distributed more evenly by being well rubbed, so as to separate the seed, which are stripped in bunches.

After the seeds are sown, all the cattle on the farm should be put into the woods where you have sown them, and fed there with hay or stock-fodder, or whatever they are fed with, and kept there until the seeds begin to sprout, when every thing should be taken off, and nothing allowed to go upon it again until the grass has seeded, when it may be heavily stocked. The object of putting the cattle upon the ground after sowing the seed is, that they may tread it into the ground.—If sowed late, the grass will not seed the first year, and the temptation will be very great to turn the stock upon it, and some of our best farmers recommend it. My experience is against turning any stock on it until it has seeded.

My land suiting both timothy and blue grass, I have generally sown both upon it, in the proportion of a bushel of each, in the chaff, to the acre. In a few years the blue grass takes entire possession of the ground, expelling all the timothy. The advantage of sowing timothy with blue grass is, that the timothy is a quick growth and takes possession of the ground and affords considerable pasture before the blue grass comes on, keeping out weeds and yielding to the blue grass as it gets stronger. The blue grass is very weak for the first year, but becomes strong hardy grass afterwards. Blue grass is not killed in the winter, and affords much food at a time of the year when green food is particularly valuable. As blue grass is tender the first year, so it also is early in the spring, and if grazed close in April and May, it will afford very little grazing the balance of the season. A few years ago I sold some beef cattle in October, off a piece of woodland pasture of seventy-six acres. The fall was favorable to the growth of grass—and in De-

cember I put upon it twenty horses and my flock of sheep, (upwards of one hundred) and they were well wintered upon the grass with only two loads of hay during the winter. There were only two snows that winter that lay several days on the ground, and at each time a load of hay, supposed to be about half a ton, was hauled out to them. My sheep are wintered every winter in this way, and the wethers are sold in the spring as soon as sheared, for the highest price that mutton commands.



The Farmer and Planter.

PENDLETON, S. C.

Vol. IV., No. 5. : : : May, 1853.

We would call the attention of our readers to the address of W. S. King, editor of the "Journal of Agriculture," commenced in this number. We regret that, from its great length, we shall have to give it in broken doses. Each portion, however, will be a treat, as it will be so divided as not materially to mar its excellence.

We are pleased, as we have no doubt many of our subscribers will be, that our old friend and early contributor to our columns, Dr. BROYLES, has, after a long rest, again resumed his ever prolific pen. We have thought much on the subject of the Doctor's communication, and have long since settled the matter in our own mind; and yet, from some unaccountable proclivity to old customs, we have pursued a course contrary to the dictates of common sense, in the general management of our crop—not always, however. Since we have got to using the turning and subsoil plow, in the preparation of our corn land, we have used the plow but little in the cultivation of the crop. On land prepared in the usual way, of scratching with a bull-tongue, we would not use a deep running plow but once, and that at the first plowing, and it to be followed by a subsoiler. Stiff land not having much vegetable matter on it to turn in, and consequently more liable to run together by our heavy spring rains, should always be subsoiled at the time of the first plowing of the corn.

Smut.—Our friend Broomsedge's communication, for which he will accept our thanks, has been placed in our hands at so late a date, that we have not time nor space to reply to his interrogatories, in the present number. We may do so hereafter. We will only now state that

we think we can adduce as strong *proof* in favor of the "bug" theory, as can its opponents of any other cause.

Cotton Gins.

Our readers who are in need of a good reliable Cotton Gin, are referred to the advertisement of Messrs. Henderson & Chisolm on our advertising sheet. We have a fifty saw gin of Messrs. H. & C. in use, and have proved it to be all they say of it. We expect to have some of these excellent gins at Pendleton shortly for sale, when our friends near by can be supplied on the most liberal terms.

Notices.

Illustrated Magazine of Art.—Since our last we have received the 3d number of this work, which we were at first disposed to give a refreshing puff, for which, we presume, it was sent instead of an exchange, as many of these Northern publications are, but on examining the first article (William the III entering Exeter) we changed our mind, and will turn it over to the "tender mercies" of the editor of the Newberry Sentinel. Hear him:

"This is a new candidate for popular favor and patronage, having just reached its fourth month. It is published monthly in New York by Alexander Montgomery at three dollars a year, or twenty-five cents a copy. We feel some hesitation in commending it to the patronage of the people of the south, especially of South Carolina, notwithstanding the value and interest of its varied contents and handsome wood-cut illustrations.—In the March number there is an article which gives the history of William III, entering Exeter. In that article it is stated that James II, in order to repel the invasion, recruited the army with Irish, which it seems was an impolitic step on the part of this unfortunate monarch; for it is said, the English people and the army "hated the Irish as cordially as the people of South Carolina now hate negroes." Now for the life of us, we cannot see the force and appositeness of the comparison here instituted between the people of England and of South Carolina. It is an essential element of every figure of speech, which is designed for illustration, that it have truth for its foundation. If the English people in the days of James II, hated the Irish no more than "the people of South Carolina hate negroes," the hatred was just no hatred at all. The people of South Carolina hate negroes! The assertion is utterly false—a base slander upon her people. But supposing the assertion true, why travel so far out of the way as to lug it in an article in no way pertaining to the institution of South Carolina? Why

not say as cordially as the Irish hate snakes? More than this, is the hatred of negroes, supposing such a feeling to exist any where at all, confined to South Carolina? Why select her people as the objects of ridicule—to point a moral or adorn a tale?"

The Working Farmer.—We have received the first and second numbers of vol. 5, of this excellent work. In the first number we were requested to "notice," which we now do with pleasure, for we feel quite sure we cannot, in all our exchanges, notice or recommend to our readers a better work. The "Working Farmer," is edited by Prof. J. J. Mapes, New Ark, N. J., and published by F. McCready, American Institute, N. York, at the low price of one dollar a year.

We have not been remiss in noticing any one of our Northern or North-western exchanges, and in recommending them to our Southern readers, and have in all probability been blamed by some of our subscribers for noticing or even exchanging with many of them. But we assure all such that we have not a single exchange either North or South, that we do not consider worth more than the subscription price, to any farmer or planter. But we are not quite sure that our Northern brethren of the press, generally, are very particular in their observance of the golden rule, for we seldom see a Southern paper noticed in one North. This, common courtesy would seem to require—not that we expect to be benefitted by such notices in the way of adding Northern subscribers to our list, for our Northern brethren are less disposed to patronize southern periodicals than are we those of the North. We doubt if we would exceed the truth in saying that *one hundred* (and we believe many more) Northern agricultural papers are taken at the South, to every *one* of our Southern papers North.

To the above charge of selfishness, we are pleased to say there are some exceptions. Our friend Dr. Warder, of the "Western Horticultural Review," a work that every man or woman that has, or ever intends to have, a garden, a fruit tree, or a grape vine, should at once subscribe for, has very recently paid us the following compliment; which, for *his* and *our* benefit, we give to the readers of the Farmer and Planter, which the Doctor says "contains much useful matter to Southern planters," observe.

The Farmer and Planter.

"This pleasant monthly visitant, from Pendleton, South Carolina, makes its appearance doubly welcome by the pretty compliments Messrs. SEABORN & GILMAN have been pleased to pay my other self in horticulture, the Western Horticultural Review. They acknowledge, however, having neglected an early notice; for which they are freely granted absolution, especially as they say to their friends and readers—"If you want the neatest, cheapest, and most reliable work on the various

subjects of which it treats, send your three dollars forthwith, to"—etc., etc. Would that the "friends" of the Farmer and Planter were as many as the sands of the sea, and that a tithe of them would heed this kindly advice.

The appearance of the added advertising sheet, gives evidence that the Farmer and Planter is in a prospering condition upon the opening of its forth volume. It is issued monthly, at one dollar a year, and contains much useful matter to Southern planters."

Soaking salt Fish.

MESSRS. EDITORS:—I have never seen the simple fact stated in any publication, that by soaking mackerel, or any variety of salt fish, over night in fresh salt and water, their flavor might be improved one hundred per cent. Make the water pretty strong, say a table-spoonfull of salt in water sufficient to cover two fish. I have not tried the experiment with pickled meat of any kind, though I can see no good reason why their flavor and freshness should not be improved in the same way. I think a very few are acquainted with this fact, and perhaps it would be well to give it publicity in your next issue.

H. H.

REMARKS:—We were aware of the fact above stated, and have frequently practiced the soaking of salt fish in weak brine. We have never heard it accounted for, but suppose it is owing to a chemical action or attraction that the fresh salt may have for that formerly used, and which may have undergone some change from its union with the juices of the fish.—Eds. F. & P.

MESSRS. EDITORS:—I have been waiting to get something to write about, but have as yet failed.

The receipt for making light bread, in the February number, is certainly worth the subscription price of your paper.—The one in the March number is good, as is also potato water for lice on colts.

Yours, &c.

N. W. D.

P. S.—What can we do for the ground mole, apart from Palme Christi seed.

REMARKS.—Friend D., being so disposed, we have no doubt you will find something to write about ere long, which we shall be pleased to receive for our columns. If our subscribers can get their own consent, and make up their minds to write something for the Farmer and Planter, as soon as something worthy presents itself to them, we are certain we shall have more original communications than we have heretofore had; for there is scarcely a day of the 365 in the year, that the farmer has not some experience worth recording—worth communicating to his brethren of the craft. Just set a resolution, friends, to write whenever you have something

to write about, even if you have not been in the habit of "writing for the papers," write—send it along, homely though it may be dressed. No odds, the facts are what we want. We will give them the polish so that you will scarcely know them as your own offspring.

For the destruction of moles, you will find something in our back volumes. We know of no new remedy. Perhaps some our subscribers may, which they will give us! We would suggest bread or dough pills, with a very small portion of strichnine in each deposited in their tracks. If a dog does scratch some of it up and eat it, perhaps it may save the life of a valuable sheep.—Eds. F. & P.

Clover and Wheat.

A friend wrote us in December last, as follows:

Major, how you astonish me, when you inform me that you are about turning over a clover sod to put in wheat! Why you carry me back some thirty odd years, which makes me think about my youthful days when I had hold of the barebear plow, turning over the clover sod. Will you suffer me to predict that it will be but a very few years after the rail road reaches this region, till this will be a clover growing country—with the road we will be able to get the plaster of paris, and with one bushel of that to the acre we can make clover grow. W. R.

REMARKS:—Well, Doctor, if you could see at this time our lot on which we sowed the Hunter Wheat, which you were so kind as to send us—as late as the 5th of January, would you no doubt, from present prospects, come to the conclusion that both clover and wheat may be profitably grown, even without plaster—especially with a light application of guano, coal dust and ashes. We have some lots of clover and orchard grass at this time (April 2d) we are sure you would not regard a ride of the distance between us, at any time, to see.—Eds. F. & P.

Enquiries.

MESSRS. EDITORS:—I want some information, viz: Will ashes and lime do as manure for corn on loose sandy lands? If it will, how should it be mixed, how much to the hill, and how apply it? My notion is this—five bushels of ashes to one of lime—half pint to the hill, placed on each side of the corn before covering. If this is an error, say so, and give me your views, as I am perfectly satisfied that your views will do.

Next, I want to know from some of your able contributors how to plow, manure, plant, and cultivate loose sandy land that is perfectly level, with a light yellow subsoil? I want to improve my land the fastest way possible, and I see but little said about the improvement of

such land. Would it do to turn it over with a large turning plow 10 or 12 inches deep. &c. Yours &c.

Wm. B. Owings.

Columbus, Miss., March 9, '53.

REMARKS:—As our April No. could not reach you in time for your present crop, we have written you on the subject of enquiry. We feel quite sure that the application of ashes and lime will be decidedly beneficial to your corn crop, as well as to the crop that succeeds it. On such soils, when not greatly deficient in organic constituents, you could not have made a better application at the same cost. At an additional cost of one or even half a bushel of salt to the five of ashes and one of lime, the mixture would be much more efficient. A half pint of the composition to the hill, would require near 23 bushels to the acre, the hills 5 by 3=2.904 half pints, dry measure. We are inclined to believe that even this small quantity per acre, spread broadcast and harrowed or plowed in shallow, after the land has been broken up, would be more beneficial in supporting the plant to its maturity, than when applied to the hill. On the subject of the latter part of your enquiry, we ask the favor of some of our correspondents who are better acquainted with such lands than ourselves to respond. We would here remark that we believe the plow is too much used on sandy lands; a powerfully compressing roller would be in many instances much more beneficial than a plow. The land is already too light, yet we see farmers on our sandy river bottoms, running the plow through the crops some 3 or 4 times in a season! Decidedly wrong. After preparing your land, cultivate the crop superficially to keep down weeds and grass. Never go down "to tear up the roots" is our advice. Better roll it as already stated, so as to keep it more compact. It is already too loose in texture, either to closely embrace the small fibrous roots of the growing plant, or to retain moisture.

Anything, if it acts mechanically only, to obviate this defect, will prove beneficial to such lands. Clay, lime and ashes, independently of other effects, act mechanically on such soils, and hence are valuable applications for their amelioration. We refer you to an article to be found on p. 74, in this number, on "Sandy soils and their management."—Eds.

Smut in Wheat.

MESSRS. EDITORS:—I see several communications in the Farmer and Planter on smut in wheat and the cause of it, and I see that you have invited those that are not, as well as that are in the habit of writing for the Farmer and Planter, to give their views, as the truth was what was wanting. Although I am not in the habit of writing, I will try and give you a few plain facts. I bought a farm in the fall of 1835, after wheat was sown. I got the wheat with the land, and as long as I continued to sow that wheat on that farm I

never had a grain of smut as I know of. In the course of five or six years I bought another farm—the last crop of wheat on the old farm was good wheat. I took three bushels of that wheat and sowed it on the new farm, and I almost made none on account of the rust—if there was any smut I don't know it. I got out 11 bushels, and sowed some of it and some of the old crop, the last made on the old farm. At harvest I saw no difference in the wheat, all had smut alike. That being the first smut I ever had. I sowed some of the same wheat the next year, and it was almost ruined with smut. I concluded then I would buy my seed wheat. I bought of a man that told me he never had smut in his wheat. I bought twelve bushels and sowed it, and made some smut the first crop, the next crop was nearly ruined with smut. The next crop I soaked in blue-stone, except about a peck; that which I soaked had very little smut—the other I never cut, nearly every head was smut.

I soak my wheat every year, smut or no smut. By soaking in bluestone it will prevent smut; I have a large trough for the purpose. I put in about one pound of bluestone to four bushels wheat; never throw out the water till I am done sowing; add blue-stone every time I put in fresh wheat, and keep water enough to cover the wheat when swelled. The cause of smut I don't know. I have no idea that it is caused by a little black bug. I have seen some heads part smut and the other good wheat—part of the mash smut, and the other good—apparently half of the grain smut and the other not. I don't think the smut heads ever blossom. The smut stalks seem greener than the other stalks. Before I had smut I had a great many blasted heads, since smut they have nearly all disappeared. I think the smut wheat is the blasted wheat nearer perfection—that the cause of smut is in the soil. H.

REMARKS:—We think if our correspondent H. will carefully read the articles by J. H. H., which we have published, he will regard the "little black bug" as being entitled to more consideration than he is now disposed to give him.—Eds. F. & P.

For the Farmer and Planter.

Some Remarks about Grasses.

MESSRS. EDITORS:—Before proceeding to the proper business of this communication, permit me to say, that the remarks in my last communication on smut, respecting the "Bad smell producing the bug, and the weevil wheat," were both intended as absurdities, to give strong

expression to my disbelief, that the bug produced smut. Upon further reflection I am satisfied that the "expression of disbelief" is stronger than philosophy would warrant. My impression at the time of writing before, was that the "Bad smell" probably attracted the bug, for insects are apt to congregate where their proper food is to be found. Whether, however, the smut is the off-spring of vegetable disease, or the injury done by some insect, I am satisfied that blue-stone is an effectual remedy.

My theory is, that man was only intended to have a life estate in the soil, and that it is the duty he owes to his country and posterity, to leave the soil as good as he found it. With this view manure must be had, and as we have no means of procuring at paying price, all we want from abroad, we must have it made at home. To make manure, we must have animals, and to raise animals, we must have grass. I have therefore sowed grass seeds of various kinds. [The red clover has grown for me perhaps more readily than any other. It seems as *natural* to my soil as Indian corn. Where ever I can have a good hill of corn, I can have a good bunch of red clover. With me poor land brings poor clover, but my poor land brings poor corn or poor broom-sedge. And my experience satisfies me that the doctrine of the climate or the soil not being "*natural*" to clover is all humbug. New ground that is very light and full of vegetable matter, had better be plowed deep enough to bring up and mix some clay with it before the clover is sowed.

The orchard grass has also done well for me both for pasture and for mowing. But it is a large yielder and therefore a large feeder. When mowed it ought to have a good top dressing of manure every or every other year. If it is mowed to save seed, it will require much more manure than when mowed in the proper stage for hay. This grass also does well in such land as will produce good corn.

Red top or herds grass, is also a good pasture or hay grass, but requires moist land. It should be sowed in the low damp places, and will grow well in land too damp and cool for corn. This as well as the orchard grass must be well fed, by feeding off or top dressing. In North Carolina a common practice is to feed the hay to stock in the winter on the meadow from which it was mowed, and thus manuring and giving a re-supply of seed. By this and other means of

manuring, the herds grass and orchard grass may both be made to flourish for a great many years in the same place.

Timothy I have found requires pretty much such treatment as the herds grass. It will grow taller on the same land, is rather coarser as hay, and is more tender and easier to kill out.

Kentucky blue grass is the hardest pasture grass, bearing more hard usage and still live than any other I have tried. It is on such land as we have only fit for pasture, as it does not often grow tall enough to mow. It is, I think, the most nutritious of any grass or green crop except the pea vine. It will also make some seed, when much abused, and has therefore a strong tendency to propagate itself.

The next best pasture grass is white clover. It has a strong tendency to propagate—will stick even to poor land. But is objectionable on account of salivating horses and mules. But is very valuable for early and late grazing.]

I received from the patent office too years ago some seed of the Chillian clover, Italian ray grass, and perennial ray grass. The Chillian clover turned out common lucerne. The two ray grasses came up and grew well, by being hoed and cultivated, the first year. But the second year I left them to their fate, and they were choked out by the common grass—at least all but a few sprigs of the perennial.

I sowed last spring some of the seed of the Canary blue grass. It came up badly, and is now likely to be choked by the volunteer clover, that came from the seed contained in the manure put on the land, when the grass seed was sown.

I have now a few young plants of California clover in their third leaf, from seed sent me in a letter by a friend. If I am satisfied that it is worthy of further notice, your readers shall hear from it again.

Most respectfully,

A. B. CROOK.

Greenville, S. C., April, '53.

P. S.—Perhaps I should have stated that my observation of grasses has been principally at my place "Chichuoa," about 12 miles up the Saluda from this place.

A. B. C.

The March Number.

MESSRS. EDITORS:—"It is an ill wind that blows nobody any good" runs an old adage—may we not hope that among the many things promised by the new administration that the mails will go and come with some regularity, and the post-

masters be more efficient. It has always been so difficult a matter for us to get a communication before you in season, that we have often thought every new one would be our last—but there has been this advantage at least, that our own articles were generally about as new to us as anybody's.

Disbarking Trees.—Cole may advise it till he is tired, and as many follow as like—if it be a worthless, dying tree, no harm can be done, but it sounds very like nonsense to us to talk about putting one's trees in a "*thrifty state*" to prepare them for the disbarking process. There is a great deal of humbug about these remedies for fruit trees, washes, &c. We once bought from a nursery-man some young apple trees, and were advised to apply a coating of strong soft soap and lime to the trunks. We did so—it only killed one-sixth of them, and seriously injured all the rest. We now use the following wash, and find it answers admirably, our trees look like they were varnished:—Six quarts of water—pot liquor is best—3 table-spoonfulls soap, and one pint of strong ley; with this rub the tree well with a coarse rag, from the limbs to the ground, in the month of March.

"Wet lands are not improved by sub-soiling until after having been under-drained"—this seems to be a favorite axiom of Professor Mapes, for it is in almost every number of the Working Farmer—but great as our confidence is in the skill and knowledge of the learned Professor, we cannot subscribe to the assertion unless backed by stronger proof than he has given us. Any land dry enough to be cultivated, will certainly be better calculated to yield a crop after a plowing twelve inches deep, than it would if scratched some two or three inches. Our own experience is, that in this climate the wet lands are wonderfully improved by it.

Diseases of Swine.—The ignorance which prevails generally among us about the diseases of our domestic animals is lamentable. With hogs it is very much as with folks, the main difficulty is to find out *what* is the matter. If I knew the disease I could do something—there's the rub—we have no books that will tell us. We have rarely had a sick hog, calf, or sheep to recover under our treatment, whether they assumed the type of the Dr. or the prevailing epidemic, we can't say. We knew an old gentleman who was very successful with this treatment in quinsy—he stood the hog in a trough of hot soap-suds, and rubbed his legs well

with a cob, making sure to open the little holes—"devil's tracks,"—in the fore legs; he then gave them pine-top tea in their swill and kept them up on dietetic principles for a few days.

"Gypsum as a fertilizer."—Mr. Byrd always writes sensibly and cautiously—one is not apt to be misled by him. We have no faith in the gypsum theory. 1st. because it is not based upon scientific principles, according to the analysis of the cotton plant—sulphuric acid, is the least of all the important ingredients of that plant, and it is unreasonable that so small an addition as that made by the gypsum advocate, could effect much good. Bous-singault, after a great many very careful experiments, became satisfied that "Gypsum had no appreciable effect upon wheat, oats and rye," ergo to our mind it cannot be much for cotton. We have much more faith in the ashes than in the gypsum, and the greatest wonder to us is, that a field which had been manured three successive years in the drill did not double the production last year.

"Smut in Wheat and the Cause of it."—The writer begs to retract certain charges made in future numbers, vs. the little black bug, and fix them upon the wire worm—the wire worm objects and calls for the proof, while the little gentleman in black returns thanks, thinking half a loaf better than no bread.

"Power of Soils to Retain Manures."—Worth \$100.

"Management of Stallions."—Right, "every body knows" that the colts of stallions that work moderately are always stouter and thriftier—but we want a stouter breed of horses too—something that can draw the load and go the pace also.

"Smut in Wheat."—Editorial remarks: (a) "Nor do we believe you ever will see a smutted head of wheat that was *not* produced by the bug." The proof, Messrs. Editors, and answer is—A sows 8 bushels wheat bought of B, *not* soaked, and in the same field 4 bushels of the same variety bought of C not soaked—treatment similar. B's wheat has no smut—C's wheat is nearly all smut. Why did the fastidious little gentleman in black exercise such favoritism.

(b) There is a little insects belonging to the ichneuman family, which pierces a hole in the egg of the Hessian fly and lays its egg therein, which hatches and the grub subsists upon the ora of the Hessian fly. May not the little black bug be so engaged "quier babe?" Mr. Blount is like an old uncle of ours, who always begins

an argument by declaring he will not be convinced—but Mr. B. mistakes if he thinks calling hard names or talking about theoretical nonsense, long yarns, and the like, will strengthen a good cause. Science is knowledge—its roots must strike deep into truth or it cannot flourish, and truth can in no way be more surely arrived at than by fair, honest argument. Mr. B. set out with one of the proofs of his theory that "soaking in brine and rolling in lime, had turned out a complete failure." We can produce a thousand certificates that soaking is a preventive. Now if soaking kills the egg of the bug, the egg must have been deposited in the grain by the insect—that would not be consistent with its course according to the black bug advocates. It would be unreasonable to suppose that the soaking could make the grain when in the dough state so offensive to the bug that it would not touch it—hence the soaking theory must be knocked down to make way for the black bug. Gentlemen give us the proofs and we will give up.

BROOMSEDGE.

Big Branch, April, '53.

The Poetry of Farming.

The farmer's life is a pleasant one, free from the care and anxiety that attend a mercantile or professional course, and unless pursued for the purpose of accumulating wealth, affords many hours of leisure for mental improvement. If happiness is the object to be obtained, surely there is no class more favorably situated than the intelligent farmers of our country. Their business leads them forth to breathe the pure air, laden with the breath of many flowers; around them are spread the fertile fields, from which they derive not only the necessities of life, but its luxuries too, each fairy landscape bordered by a broad green hem of majestic trees, for beauty and for use; above them is the glorious sky, with its fleecy drapery of clouds, and over all the mantle of beauty is thrown, filling the heart of the beholder with admiration and delight. They rise with the lark to meet the sun at his coming and go to their labors with glad hearts and willing hands, and find health and contentment their reward. With elastic footsteps they follow the shining plow-share, as it opens deep furrows in the mellow soil, or scatter with liberal hand the "good seed" which shall soon spring up and clothe the naked ground with a robe of living green. Nature's glad voices cheer them at their work, and bid them rejoice in the prospect of a plenteous harvest.—The gentle showers drop fatness upon their

fields of waving grain, and the silent dews of night refresh their verdant pastures, wherein repose their improved flocks and herds, objects of honest pride and sources of wealth.

Many are accustomed to view the farmer's life as one of drudgery and toil, and assign to them a low place on the scale of mental and moral excellence, in many instances regarding them with scorn and contempt. But they are not necessarily vulgar or ignorant. True, they are, and must be an industrious class, but they know they know the dignity of labor, and by keeping pace with the improvements of the day in the use of machinery, much time and strength is saved which may be spent in study, thus opening to them new sources of enjoyment, and exciting new interest in the wonderful operations of nature. It should be their pleasure—

To study culture, and with artful toil
To meliorate and tame the stubborn soil;
To give dissimilar yet fruitful lands
The grain, or herb, or plant that each demands;
To cherish virtue in an humble state,
And share the joys your bounty may create;
To mark the matchless workings of the power
That shuts within its seed the future flower.
Bids these in elegance of form excel,
In color these, and those delight the smell,
Sends nature forth the daughter of the skies;
To dance on earth, and charm all human eyes;
These, these are arts pursued without a crime,
To leave no stain upon the wings of Time."

No, the farmer's life is not *all* drudgery and toil, there is *poetry* in it, and beauty too. The earth, the air and sky, all contribute to his happiness and prosperity.—The gentle breeze, that rustles the sword-like leaves of his luxuriant corn, has music for his ear, and the wintry blast that howls around his comfortable dwelling has no sadness in its tone. Peace and plenty are within, and the raging storm without is unheeded.

His life is not spent in the "tainted air" of the crowded city, amid the noise, the bustle and confusion of its thronged streets, but in the "green pastures" and beside the "still waters" of his native vale. The humble cottage contains his heart's treasures, and in the cultivation of his flocks, the mental and moral culture of his mind, and the instruction of his children, he finds ample employment for all his faculties, and reaps the reward of pure and lasting happiness.—*Ohio Cultivator.*

GOOD CANDLES may be made thus:—Melt together ten ounces of mutton tallow, a quarter of an ounce of camphor, four ounces of beeswax, and two ounces of alum; and then run it into moulds or dip the candles. These candles will furnish a beautiful light.